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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,542	08/09/2001	Mark C. Sullivan	SBTZ.0040002	1986
34611	7590	06/21/2005	EXAMINER	
LAW OFFICE OF DUANE S. KOBAYASHI 1325 MURRAY DOWNS WAY RESTON, VA 20194			BURD, KEVIN MICHAEL	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/924,542

Applicant(s)

SULLIVAN, MARK C.

Examiner

Kevin M. Burd

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-31 is/are allowed.
- 6) ☒ Claim(s) 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

1. This office action, in response to the amendment filed 3/29/2005, is a final office action.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 3/29/2005 is being considered by the examiner.

***Response to Arguments***

3. Applicant's arguments filed 3/29/2005 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., non-coherent processing to provide a coarse estimate and coherent processing to refine the coarse estimate) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The combination of Ma et al (US 4,998,111) in view of Krasner (US 6,133,871) discloses processing 1msec segments, the segments undergoing an FFT process, the FFT segments multiplied by a Gold code, undergoing an IFFT and summing correlations and determining a peak magnitude as stated in the previous office action.

The rejections of claims 21-24 are maintained and stated below. New claims 26-31 are allowed.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al (US 4,998,111) in view of Krasner (US 6,133,871).

Regarding claims 21, 23 and 24, Ma discloses a system and method of rapid acquisition of multiple GPS signals (abstract) as shown in figure 1. The GPS signal is collected in a memory 20 and one millisecond segments of the GPS signal are stored (column 4, lines 50-60 and abstract). The one millisecond segment is converted to the frequency domain in the FFT 22. The frequency domain representation of the segment is multiplied by a reference code (column 3, lines 36-43) in multiplier 30. The signal is converted to the time domain in the inverse FFT 32 and a peak is detected in this signal 34 (column 3, lines 57-61). Ma does not disclose the reference code is a Gold code. However, Krasner discloses, "the code sequences belong to a family known as Gold codes. Each GPS satellite broadcasts a signal with a unique Gold code." (column 1, line 66 to column 2, line 9) Therefore, it would have been obvious for one of ordinary skill in

the art to use Gold codes as taught by Krasner in the GPS system of Ma since "each GPS satellite broadcasts a signal with a unique Gold code." The GPS system would not function properly without a Gold code.

Regarding claim 22, the peaks are used for processing (column 3, lines 44-61).

### ***Allowable Subject Matter***

5. Claims 26-31 are allowed.
6. The following is an examiner's statement of reasons for allowance: The combination of Ma and Krasner disclose the combination stated above. The combination does not disclose performing a coarse acquisition of a carrier and code phase of the GPS signal using non-coherent processing and performing fine acquisition of the carrier frequency and code phase of the GPS signal using coherent processing as recited in claims 26-31.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fuchs et al (US 6,453,237) discloses a GPS receiver shown in figure 6. The receiver discloses a non-coherent process comprising elements 620, 630

and 640 for partitioning multiple millisecond portions of the GPS signal into 1 millisecond segments (column 11, lines 17-25), converting the segments into the frequency domain (621), multiplying the segments with a code (622 and 623), converting the product to the time domain (625), conducting a non-coherent integration of the signal (column 17, lines 8-34 and 630) and determining the location of a peak in the correlation signal (640). Fuchs does not disclose the code is a Gold code nor does Fuchs disclose performing a fine acquisition of the carrier frequency and code phase of the GPS signal using coherent processing as stated in claims 26-31.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Thursday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Burd  
6/13/2005

**KEVIN BURD**  
**PRIMARY EXAMINER**